SPAWAR
Systems Center Charleston

July 2006

Space and Naval Warfare Systems Center Charleston

Command Overview

CAPT Red Hoover – Commanding Officer

Mr. James D. Ward – Executive Director

Approved for release- 10 July 2006

C4ISR - Connecting the Warfighter

SPAWAR Systems Center Charleston

C4ISR

Command
Control
Communications
Computers
Intelligence
Surveillance &
Reconnaissance

Team SPAWAR...
Connecting the Warfighter to the resources needed to win GWOT

- *Network Systems & Support*
- *Physical & Computer Security*
- *Command & Control*
- *Information Assurance*
- *Sensor Systems*
- *Communications*
- *Image Processing*
- *Wireless Technologies*
- *Cryptologic & Intelligence*
- *Command Center Services*
- *Visual Information Systems*
- ✓ *Information Technologies*
- ✓ *Modeling & Simulation*
- ✓ *Navigation*
- ✓ *Meteorology*
- ✓ *ATC/ Technical Services*

Major Locations:

Charleston, SC
Jacksonville, FL
Pensacola, FL
Tampa, FL
Tidewater, VA
Washington, DC

Overseas:

Afghanistan
Antarctica
Bahrain
Germany
Iraq
Italy
Spain
U.K.

Team SPAWAR… Connecting the Warfighter

SPAWAR Systems Center Charleston

Mission- We enable knowledge superiority to Naval and Joint Warfighters through the development, acquisition, and life cycle support of effective, integrated C4ISR systems, Information Technology, and Space capabilities.

Vision-
Fully Netted in Four

We are the
Principal C4I Acquisition Engineering & Integration Center on the East Coast & Principal C4ISR ISEA for the Navy

SSC Charleston Delivering GWOT Capability

SPAWAR Systems Center Charleston

66 Projects **209 Contractor Trips** **34 Civil Servant Trips**

APR 2004 – MAR 2006

Team Blue Force Situational Awareness, Fallujah, Iraq

Combined Joint Task Force, Horn of Africa

Internet Café, Balad Iraq

Containerized Airport Surveillance Radar, Balad Iraq

USCENTAF ATC Facilities And Systems Integration

Internet Cafe

Marine Corps System Command Up Armored HMMWV (UAH) Integration, Kuwait

Strategy Map

SPAWAR Systems Center Charleston

S1 "Fully Netted in ~~Four~~ Three"

Fully Netted Force

To measure how we are delivering FORCEnet in a Sea Enterprise environment.

Customer

C1 Provide Composeable C4ISR Capability

To drive the delivery of net-centric solutions.

C3 Provide Organized Accessibility

Balance the Right Readiness With Right Cost

Financial

To remain good stewards of the taxpayer's money.

F2 Manage Cost of Operations

F3 Optimize Return on Assets

Effects

Internal

Customer Focused

To develop and practice world class engineering and business processes.

Mission Focused

IM1 Perform Core Work In-House

IM2 Enable Capacity for Context Work

Process Focused

IP1 Develop a World Class Systems Engineering Capability

IP2 Develop a World Class Business Operation

Drivers

Learning & Growth

Human Capital

To continually learn and grow as an innovative team.

HC3 Develop Proactive & Visionary Leadership

Organizational Capital

0C1 Enable an Empowered, Collaborative & Synchronized Environment

Information Capital

IN-C1 Achieve Strategy-Focused, Shared Awareness, & Aligned Effect

Our Business Model

SPAWAR Systems Center Charleston

Mission: What holds us accountable

Enabling knowledge superiority to the Naval and Joint Warfighters . . .

Resource Engine $

Business revenue from government and private party customers

Discriminator: What we are known for

Real time, adaptable & efficient acquisition and in-service engineering

FORCEnet @ Sea Enterprise Rates

Sustaining the Fleet

SPAWAR Systems Center Charleston

SPAWARSYSCEN

ISEA next

The C4I Behavior Model

Collaboration,

Common solutions,

Cross-boundary

Cooperation & Inclusion

Sea Enterprise: Improve the Navy business operations "effectiveness & efficiency" to free resources for the 21st century Navy.

In-Service Engineering Agent (ISEA)

SPAWAR
Systems Center Charleston

Recapitalization Goals

- **Rapid response**
- **Highly flexible sustainment chain**
- **Modular and composeable capabilities negotiating with one another**
- **Self-synchronizing networks via a common environment and shared objectives**
- **Use of Info Tech for data sharing, commitment tracking and role reconfiguration**

Single Fleet-Driven Metric: "SEA AGILITY: Warships ready for tasking today, tomorrow, and future at reduced cost"

ISEA next

SPAWAR
Systems Center Charleston

In-Service Readiness Concepts

Test and Evaluation

- Remote Test Conduct & Control
- Live Data Analysis
- Modeling Simulation & Live Fire Integration
- Joint Testing

Human Systems Integration

- Real Time Training
- Mission Adaptive Capabilities & Limitations
- Interactive Courseware
- Battle Force Simulation Training

Improvement

- Download Latest Changes
- Technology Refresh
- Update Technical Documentation
- Change Verification & Validation
- Automated Configuration Control

Readiness

- Remote System Monitoring
- Remote Diagnostics
- Predictive Analysis
- Proactive Support
- Remote Casualty Resolution
- Readiness Status
- Predictive Logistics

Integrated solutions that link capability, maintainability, reliability, availability & supportability

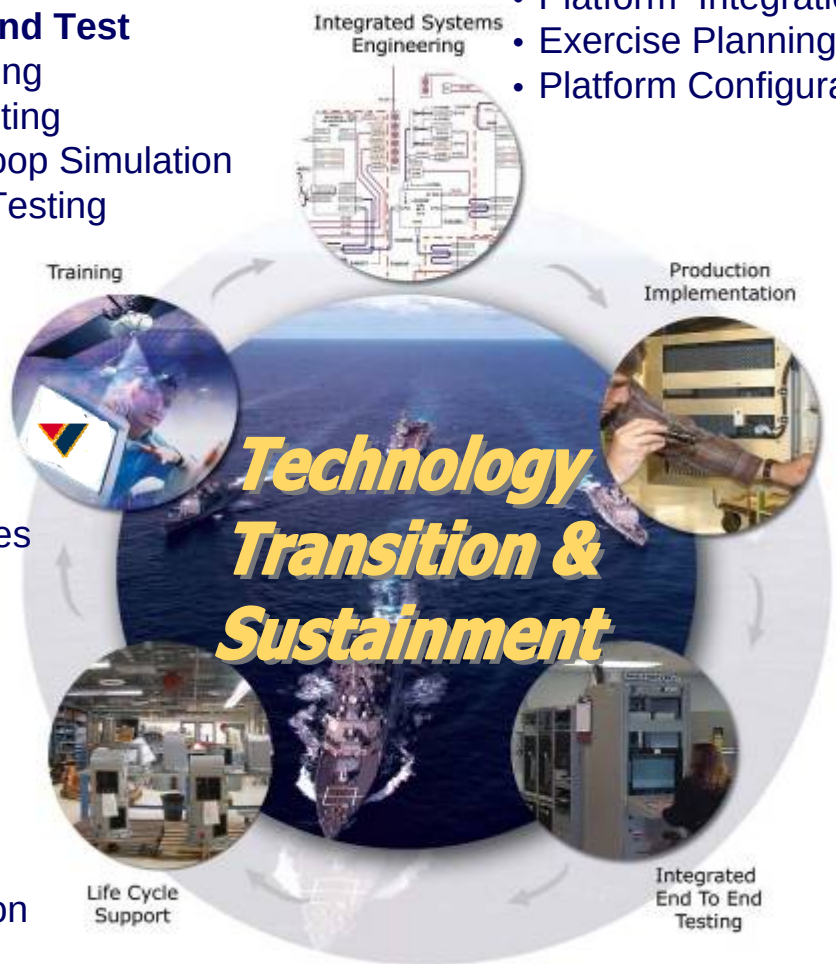
Accelerate Change Improve Readiness Reduce Cost

Fleet Engineering

SPAWAR Systems Center Charleston

Technology Transition Engineering
- Platform Integration
- Exercise Planning
- Platform Configuration Mgmt

Integrated End-to-End Test
- Cross System Testing
- Cross Function Testing
- Hardware In The Loop Simulation
- C4ISR Readiness Testing
- PITCO



Installation/Production/ Implementation
- Production Prototyping
- Platform Systems Design
- Systems Configuration Management
- Shore & Ship Installation Management
- Systems Planning Test & Evaluation
- Program Management Support

C4I Training Institute
- Classroom Training
- Curriculum Development
- Reusable Training Modules
- Networks
- SATCOM

Lifecycle Management
- ISEA's
- Lifecycle Engineering
- Logistics
- Long Term Sustainment
- Depot

Enterprise Solutions
- ERP Solutions
- Workflow Tools
- Workforce Mgmt Tools
- Program Cost Estimation
- Remedy

The Bridge Between the Warfighter and C4ISR Technology

SPAWARSYSCEN ISEA next

The Drivers of Tomorrow . . .

Systems Center Charleston

Surge Support
Global Deployment
Reduced Manning **New Technologies**
Spiral Development
Lean Processes

Workforce

- ✓ Composition
- ✓ Recruiting
- ✓ Development
- ✓ Retention
- ✓ Succession
- ✓ NSPS

Infrastructure

- ✓ Connectivity
- ✓ Facilities & Equipment
- ✓ Joint / Multinational / Interagency Labs
- ✓ Virtual Test Capability
- ✓ Multi-Site Integration

Processes

- ✓ Design
- ✓ Test & Evaluation
- ✓ Fleet Support
- ✓ Technical Documentation
- ✓ Installation / Modernization
- ✓ Readiness Assessments
- ✓ Configuration Management

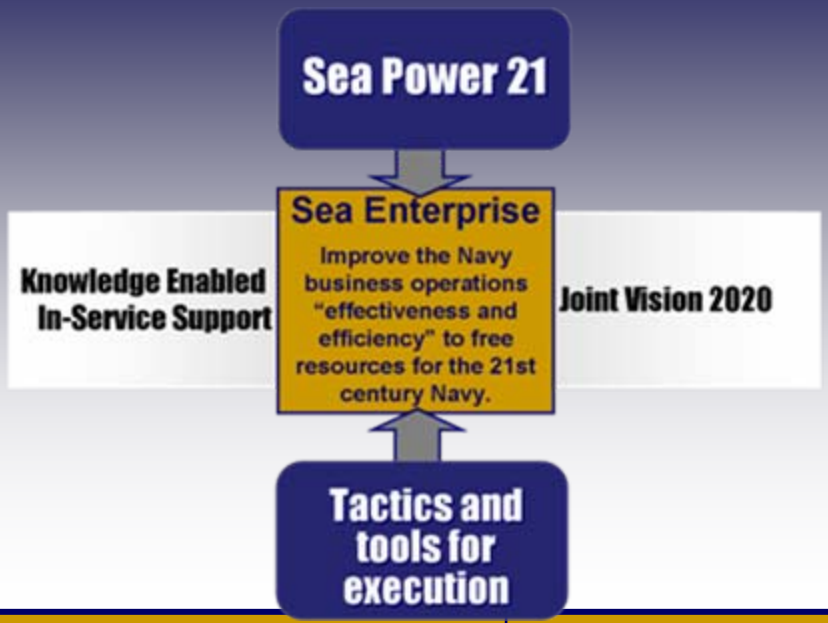
Tools

- ✓ Data Access
- ✓ Data Integration
- ✓ Distance Support
- ✓ Predictive

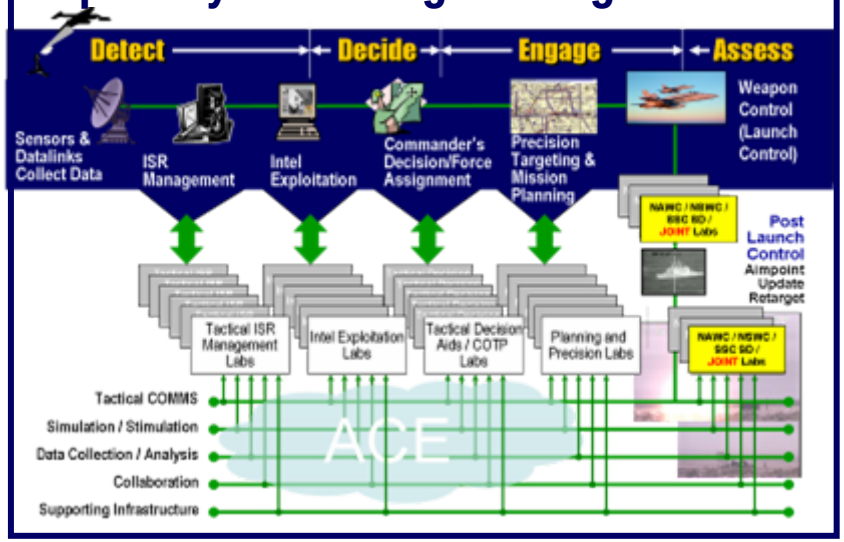
The Drivers of Tomorrow . . . Are Being Addressed Today

SPAWAR Systems Center Charleston

Virtual Presence



Capability Based Engineering Framework



Lean Six Sigma	CMMI
1 Government Master Black Belt 27 Black Belts 126 Green Belts 633 Yellow Belts 1,625 White Belts 48 Executives/Sr. Managers trained	Level 2 Certification Achieved CMMI/SE Training: 2672 students trained in CMMI processes (including trained in CMMI)
FY 06 Goal: Sr. leadership achieve Green Belt	FY 07 Goal: CMMI Level 3 Maturity

- Aligning our equities to the "kill chain"
- Disciplined, repeatable processes
- Internal technical reviews
- Removing variation from product line
- Operationalizing FORCEnet

"SPAWAR Charleston is operationalizing FORCEnet ."

ADM James R. Hogg (Ret),
Director, CNO SSG *02 June 2006*

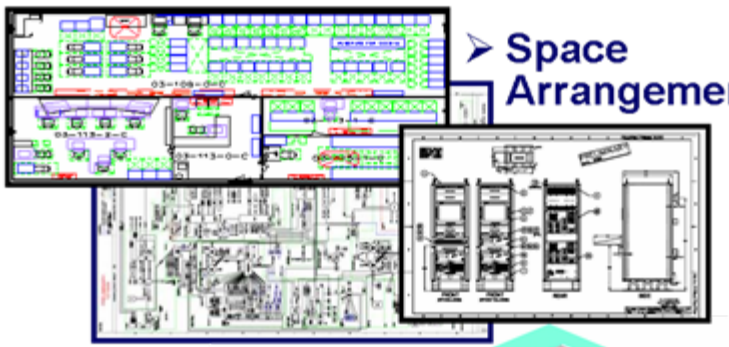
Ship Construction Overview

SPAWAR Systems Center Charleston

Design Engineering

- Design Log-book

- Space Arrangement



- 3-D Design

- Baseline Management

Integration and Testing

The system continues to evolve throughout this period—reducing additional costs associated with engineering change proposals (ECPs).

(drawing packages, wire run sheets, test procedures)

GFI Deliverable

Fabrication, Integration, & Testing

3,074 Shipboard Cables and 56,914 Terminations

Transition to Ship

Follow-on engineering services as required

- Support loadout and landing of equipment
- Support conduct of Stage 5, 6, and 7 testing

GFE Shipyard Support COSAL

Equipment Delivery Ship's Outfitting

Fleet Response Plan

SPAWAR Systems Center Charleston

SHORE Installs

Region	FY04	FY05	FY06
Atlantic Classified Site	4	5	
Atlantic North East (incl. Iceland)	4	3	
Atlantic South East (incl. S. America)	20	22	1
Central Command AOR	75	15	3
Mediterranean	36	43	5
Mid-Atlantic Region	30	50	6
National Capitol Region (incl. SYSCOMs)	8	7	
North Europe (excl. Iceland)	13	4	
Total	**190**	**149**	**15**

Aligned to FFC from the Mississippi to Bahrain

SHIP Installs

Home Port	FY04	FY 05	FY 06
Auxiliary	35	12	
Baltimore, MD	1		
Bangor, WA	1	1	1
Bremerton, WA	8	2	
Earle, NJ	8	4	
Everett, WA	41	9	1
Gaeta, IT		1	
Groton, CT	97	56	56
Ingleside, TX	71	45	57
Kings Bay, GA	4		1
La Maddalena, IT	3	2	
Little Creek, VA	66	41	48
Manama, BR	15	1	28
Mariana Island, GM	2	1	1
Mayport, FL	107	119	70
New Construction	2	5	18
Norfolk, VA	543	536	349
Other IDB		3	
Pascagoula, MS	12	12	17
Patrol / Mobile		17	
Pearl Harbor		1	
Pearl Harbor, HI	32	7	1
San Diego, CA	70	40	7
Sasebo, JA	9	2	
Special	6	2	
USCG	6		
Yokosuka, JA	17	4	1
Total	**1156**	**924**	**656**

Lean Six Sigma Events

SPAWAR Systems Center Charleston

Lean
Improving processes by eliminating waste

Six Sigma
Improving processes by eliminating variations

In Progress	2006: Planned
Closing Out Open NMCI Seats	Passports
Hostile Threat	Hiring
Delivery Order/DCMR Process Improvement	Co-op / Intern New Professionals
COR - Contracts	Training – DOE
Personnel Action Worksheet Request	JCSE Project
Up-Armored HMMWV Project	WSA Package
Expeditionary Force Projects	Code 50 Tampa Contract Process
Advanced Technology Awareness	6S IVSS / SVDS Relocation
Telecom Operational Benefit Improvement	Single Source Sign-on
NMCI Operational Burden Reduction	Issuance of Technical Warrants
Intro - IT into RDT&E Enterprise Environ.	Facility Space Allocation
Installations	Council of Branch Heads EPS / VSA
Systems Engineering	IPC Lab 1L1 6S Work Place Org.
CASREP / Readiness	IPC 1L7 & 8 6S Work Place Org.
Configuration Management	Code 0A Value Streams
	Contractor Space

*FY05: Estimated cost per event: $53K
Forecasted cost savings: $1.57M

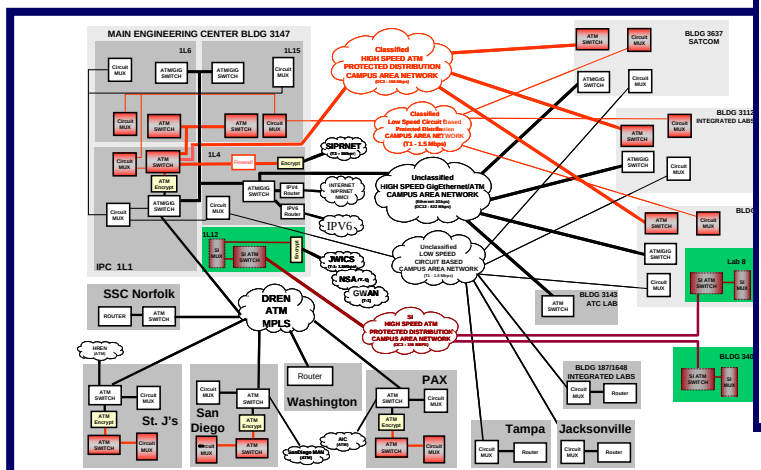
*FY06: Projected cost per event: $30K
Projected cost savings: $1.77M

*Based on FY average

Driving Return on Equity

SPAWAR Systems Center Charleston

- **Modern Facilities to meet Customers' Needs**
  - Over 1.6 Million Sq. Ft. of State-of-the-Art Engineering Facilities Valued ~ $250M
- **Designed to handle a diversity of functions**
  - Development/Engineering
  - Production
  - Testing
  - Life Cycle Support
- **Facilities include**
  - Command Lab
  - Secure Environment
  - Computer Networks (LAN/WAN)
  - Electromagnetic Environment
  - Video Teleconferencing
  - Training Lab/Facilities
  - Conference Facilities
  - Flexible Configuration
  - Sensitive Compartmented Information Facility (SCIF)



SSCC Engineering Building
Network Centric Warfare Lab

Main Engineering Center

Bldg 3112/3113

Antenna Farm

ATC

People - Our Most Important Asset

SPAWAR Systems Center Charleston

Intellectual Capital Strategy

"Our employees are the only asset we have that can appreciate in value; all other assets depreciate."

James D. Ward, Executive Director

Employing the Best

Using tools Available. Using the System, Our location, Modern Facilities and Technology

Restructuring the Workforce

Aligning Intellectual Capital with the Business Strategy

Evaluating the Workforce

Rewarding Behavior and Performance

Workforce Development

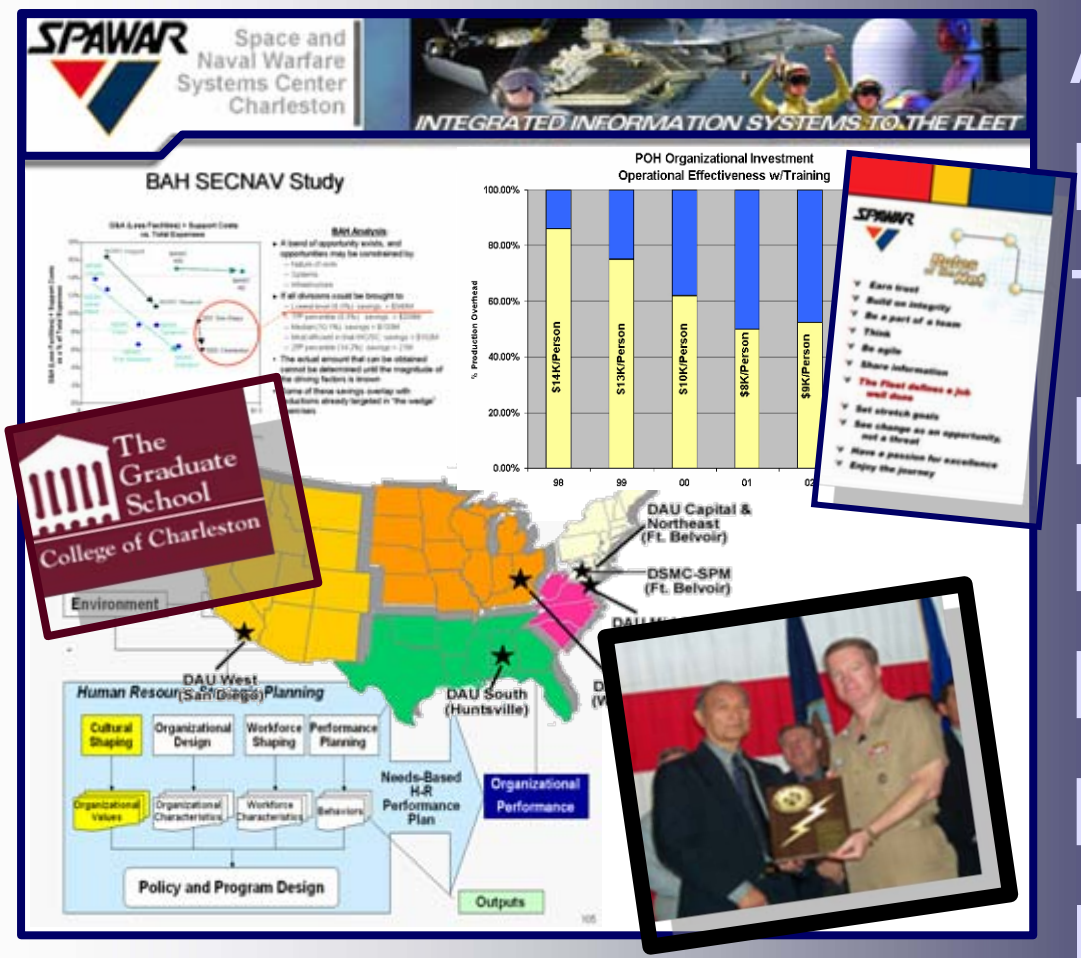
Keeping Skills Current

Optimizing Return on Human Resources

Encouraging Innovation

Encouraging Innovation

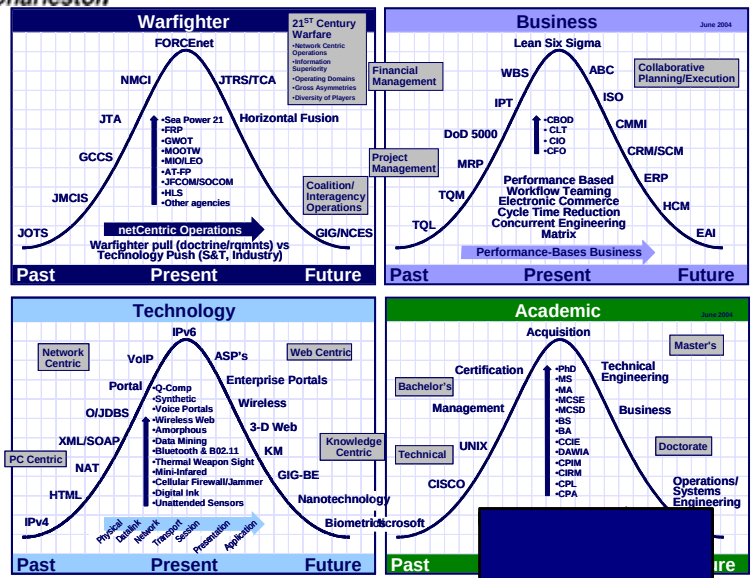
Ability to develop and retain high-performing employees through appropriate compensation, incentives, and rewards, ensuring accountability of individual and team performance.



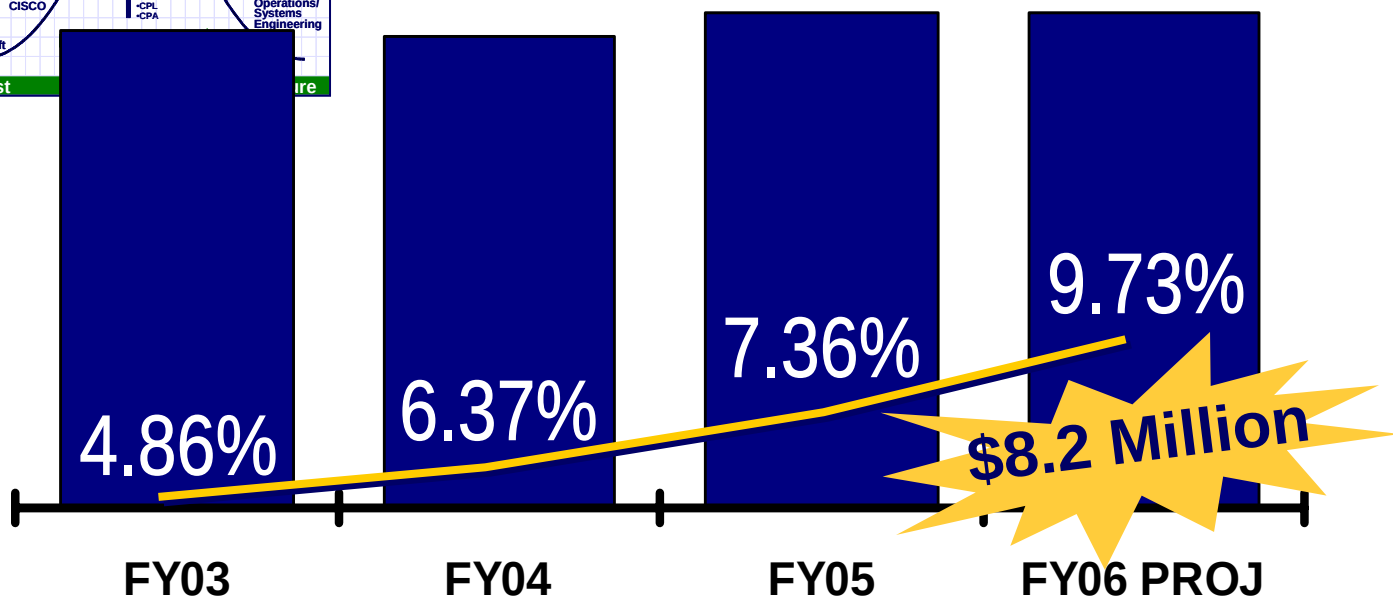
Recruit
Align
Plan
Train
Results
Educate
Retain
Reward
Invest

Employee Development Investment

Systems Center Charleston



Percentage of Overhead spent on employee development



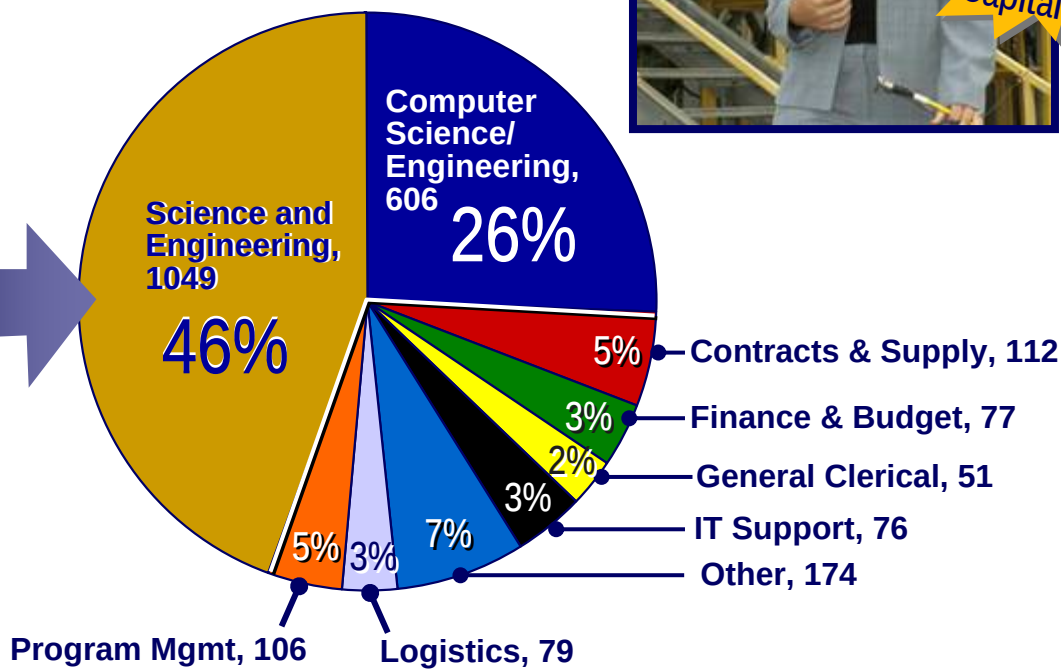
Succession Planning

SPAWAR Systems Center Charleston

- **Total workforce of ~2300 employees**
- **In two years, average workforce age has dropped by four years**
- **Through college recruiting, we have hired 243 new engineers and computer scientists (May 2003 – March 2006)**

Over 70% of our workforce is in an engineering or computer-related discipline

051206



Observable & Non-observable Diversity

SPAWAR Systems Center Charleston

Beyond EE . . .

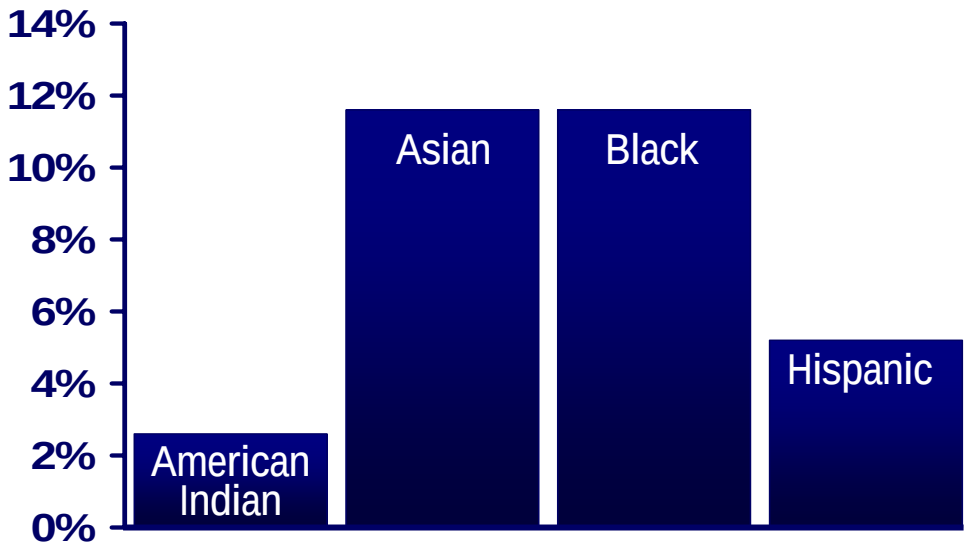
- General Engineers
- Mechanical Engineers
- Industrial Engineers
- Computer Engineers
- Operational Research Analysts

Special Programs Team

Enhancing the diversity efforts in order to better shape and grow the right workforce. Current focus:

- Awareness of disabled employees
- Awareness of other cultures
- Diversity focus on recruitment

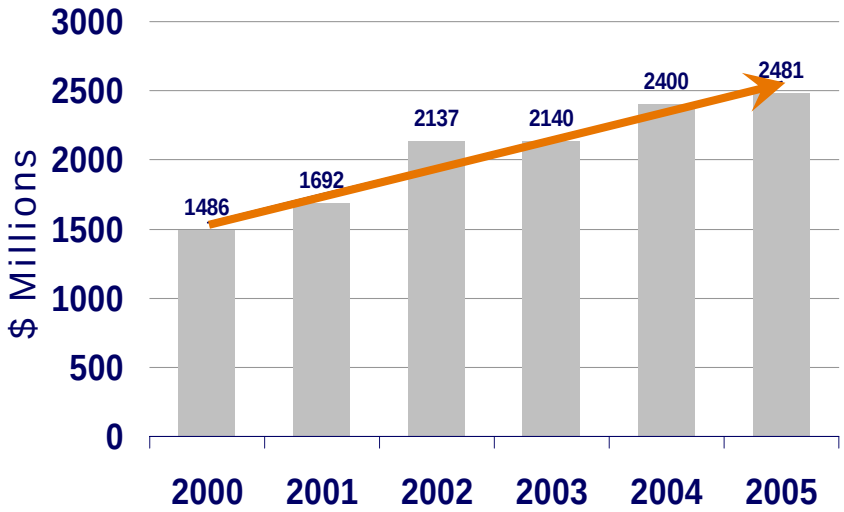
31% diverse representation in our new professionals

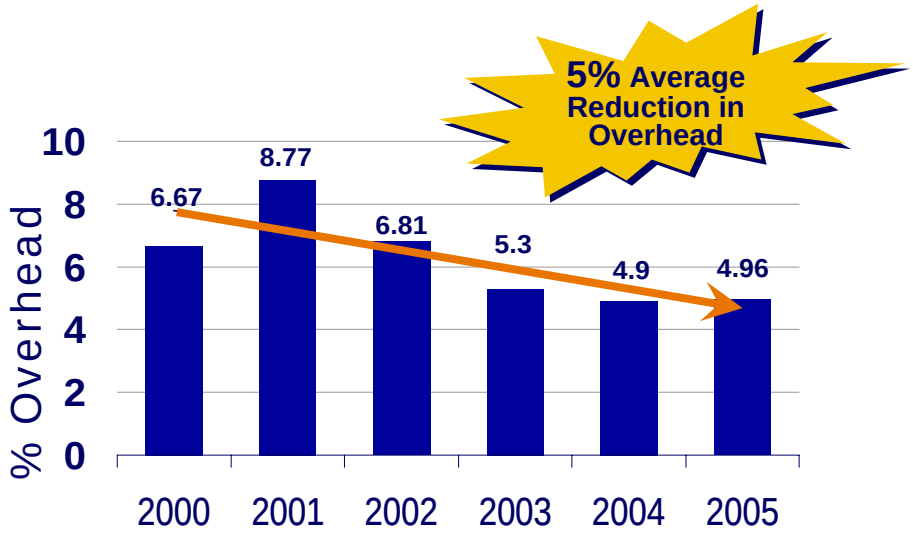


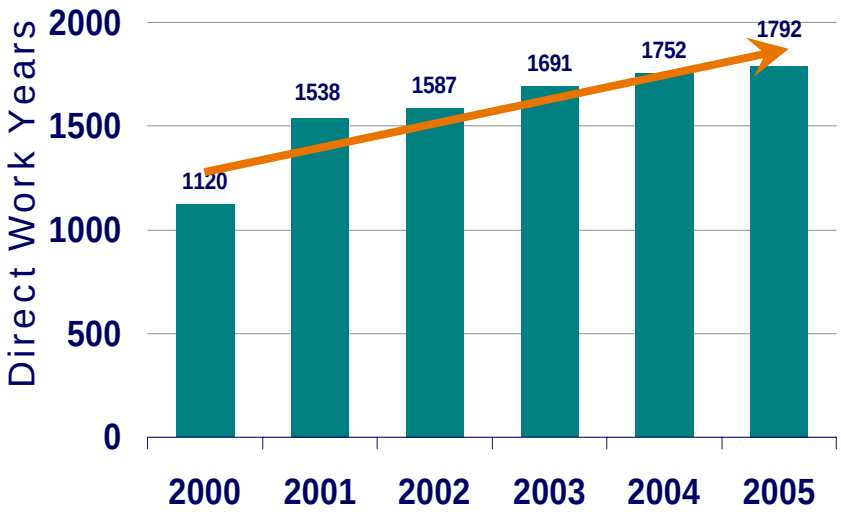
Valuing differences builds a better product and service.

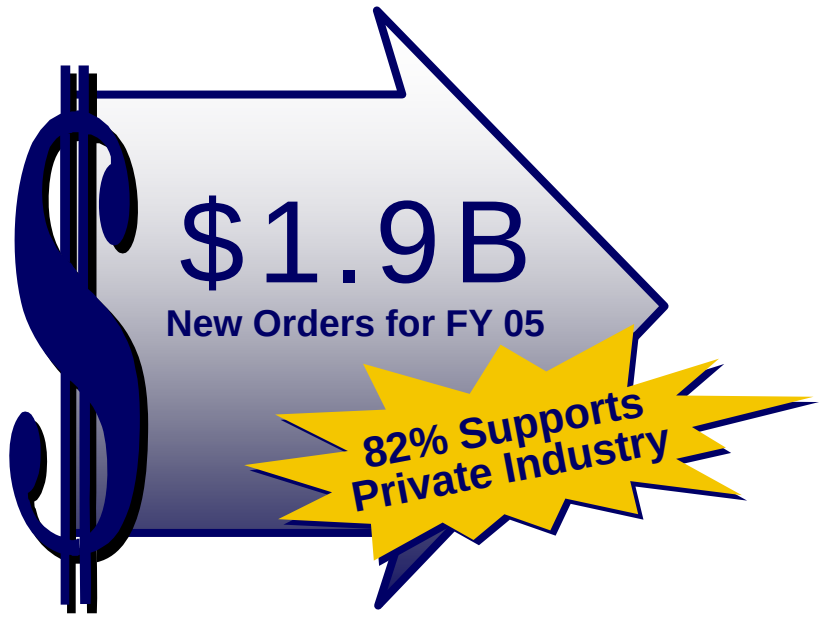
SPAWAR
Systems Center Charleston

Financial Indicators









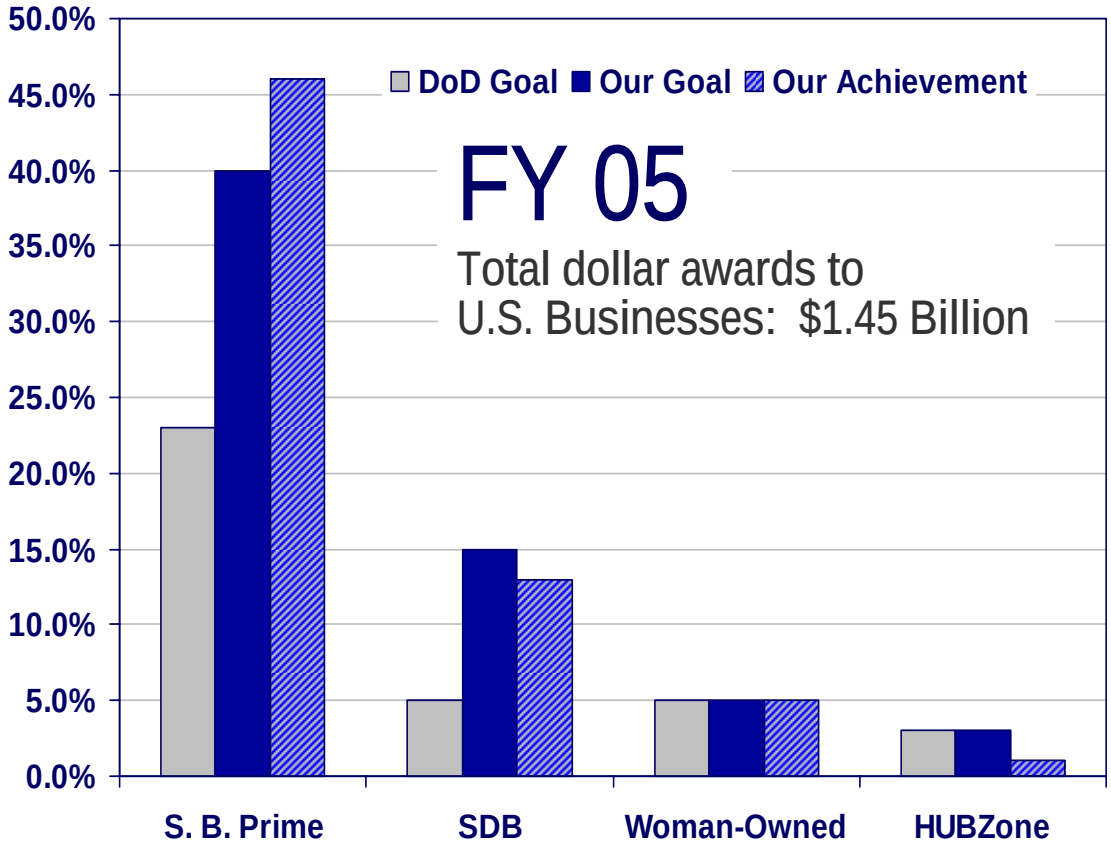
Commitment to Small Business

SPAWAR
Systems Center Charleston

2005 - SBA Administrator's Leadership Award presented to SSCC's Small Business Manager

2004 - SBA awarded SSCC an *Outstanding rating for the SBA Compliance Review for 2002-04

*First federal agency to receive this rating.



Statistics from Procurement Management Review System (PMRS) of Oct 2005

Small Business Portal

SPAWAR Systems Center Charleston

12 Charleston Regional Business Journal — March 20 - April 2, 2006

SPAWAR to enhance outreach to local businesses

By Dan McCue
Staff Writer

The Space and Naval Warfare Systems Center in North Charleston is reaching out to technology businesses in the region interested in being considered for future subcontracting work with the agency.

The initiative, which is scheduled to formally begin May 1, stems from a partnership between SPAWAR, the Charleston Defense Contractors Association and the Armed Forces Communications and Electronics Association.

It will include a streamlining of businesses' ability to communicate with SPAWAR online and quarterly sessions that will allow company officials to meet with agency technicians and representatives at locations in the community away from its secured facility.

"Small business is the backbone of our economy and a very important element in SPAWAR's business model," said Ann Howell, deputy of the agency's small business program.

"On one level, this will provide a greater opportunity for us to do some networking with small technology companies in the area, (and) at the same time, I think our off-site programs will provide a great opportunity to educate local companies about doing business with SPAWAR and, by extension, with the federal government as a whole," she said.

Howell and her staff are currently in the process of developing a "company-at-a-glance" online data sheet that will help small businesses communicate their qualifications for future contracting and subcontracting opportunities to the agency in a more efficient manner.

The quarterly sessions, held in various communities around Charleston, will also provide businesses with a second opportunity to communicate their qualifications [illegible] AR decision-makers and project [illegible]ors.

> "Small business is the backbone of our economy and a very important element to SPAWAR's business model."
>
> **Ann Howell**
> Deputy, SPAWAR small business program

[illegible]owell, who recently received the [illegible]siness Administration's National [illegible]p Award, said the half-day ses[illegible]ll, more importantly, provide [illegible]siness owners with a form of [illegible]ning.

[illegible]of the basic tenets of business is [illegible]our customer,'" Howell said. [illegible]e surprised how many people [illegible]tact us don't really have a clue [illegible]at we do."

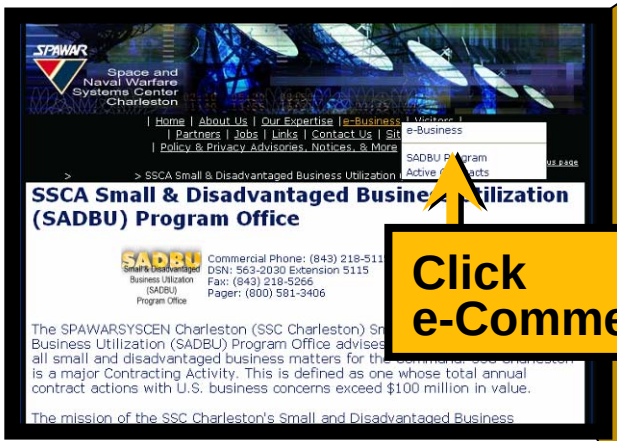
[illegible]rt, Howell said, "We buy infor[illegible]chnology."

[illegible]he doesn't discourage any small [illegible]owners from attending the edu[illegible]portion of SPAWAR's off-site [illegible]ions.

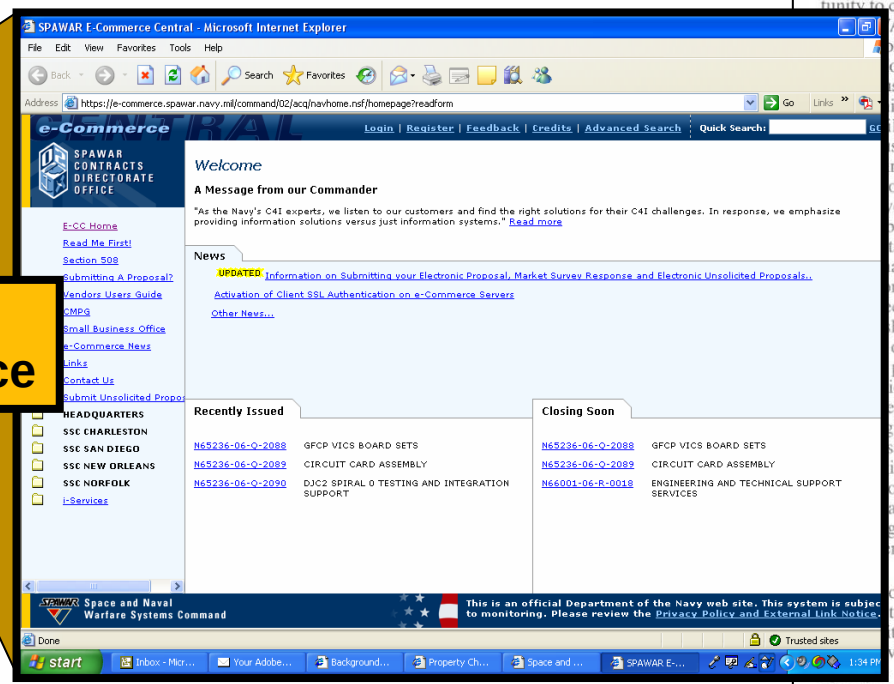
[illegible]e is, in all this, a very big compo[illegible]iving back to the community," [illegible]said. "So by all means, we're [illegible]ing everybody to come for the [illegible]of topics ranging from how to [illegible]adequate subcontracting plan, to [illegible]g tips, to teaming approaches [illegible]rnment contracting success sto[illegible]

[illegible]ore information about the initia[illegible]to find out when and where in[illegible]ty sessions with SPAWAR rep[illegible]ves will be held, visit the Web site at *http://sscc.spawar.navy.mil/*.

Go to
http://sscc.spawar.navy.mil



Click e-Commerce



Major Customers

Systems Center Charleston

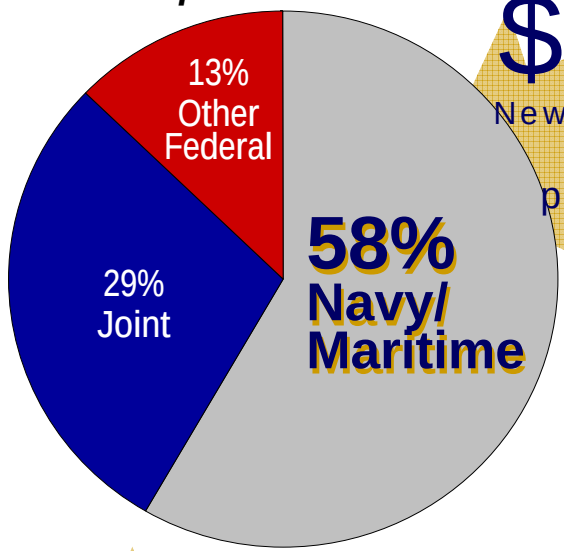
- Navy
- USMC
- Army
- Air Force
- COCOMs
- USJFCOM
- DoD
- Department of State
- Federal Aviation Administration
- Department of Treasury
  - U.S. Mint
- National Science Foundation
- Department of Homeland Security
  - U.S. Border & Transportation Security
  - U.S. Coast Guard
  - U.S. Secret Service
  - Information Assurance / Infrastructure Protection
  - Office of Disaster Preparedness
  - Federal Emergency Management Agency
- Department of Justice

"SSC Charleston's ability to produce quality "Boutique": C4ISR systems makes SSCC a national asset…"

BGen Catto, MARCORSYSCOM
25 May 2004

"I want to thank you ... at SPAWAR Charleston who are giving that bit of extra effort to do an extremely important job well … Your efforts are vitally important to the Marines on the front lines.... "

LtGen Jan C. Huly, USMC
05 April 2006



$1.9B
New Orders for FY 05
82% supports private industry

"There should not be seams in technology – no seams when operating with SPAWAR."

Brig Gen Thomas J. Verbeck, EUCOM CIO

SPAWAR in the News

Systems Center Charleston

30 Charleston Regional Business Journal Feb. 6 - 19, 2006

Company expands military research to protect local residents

By Dan McCue
Staff Writer

The Scientific Research Corp. has given the bad guys one more reason to believe crime doesn't pay—technology that will ensure records of earlier misdeeds will follow them wherever they go in the Lowcountry.

Thanks in part to a philosophy born of its longtime relationship with the Space and Naval Warfare Systems Center in North Charleston, the SRC developed the tri-county open-source communication system that allows local law enforcement agencies to communicate critical information to each other about apprehended suspects and alleged criminals on the loose, despite differences in how information is collected and stored in each jurisdiction.

"We've been working with SPAWAR since 1990, and this project kind of grew out of that," said Tim Washington, an SRC vice president and head of its North Charleston office. "By utilizing SPAWAR's philosophy of finding an existing commercial product and revamping it for another use, we've not only enabled law local law enforcement agencies to transfer criminal records in real time, we've been able to do it at a significant cost-savings for these agencies."

Responding to a longstanding need, Washington said SRC began working on

wasn't a communications network to tie those jurisdictional systems together.

"Finally, we came up with a nonproprietary software package that resides at each agency and allows records to be shared more effectively at a very low cost," Washington said. "In fact, it's proved ful that we're currently in th rolling it out across the state.

SRC, which is headquart opened its North Charle 1991 specifically to wor on integrated systems an solutions projects for th

The company, whic 80% of its business w clients, currently en buildings on the Washington said SI whether to expand to move the 100,000-square-

One of the with SPAWAR able to witne teaming with

"That's branch out.

As a re working to 16 juris country. SRC National Law Enforcement firms Technology Center to exp

Do you know?

People in the News

MILITARY

Virginia Pitts was selected SPAWAR System Center Charleston budget offi cer to execute the fiscal year 2006 budget. Since joining SPAWAR in 1998, Pitts has worked in the systems analysis and procedures branch, in the budget and re division and as a branch head in the

SPAWAR has more than $1.4 billion economic impact in '05

The Space and Naval Warfare Systems Center in Charleston had an economic impact on the tri-county area of more than $1.4 billion in 2005 from its various communications, reconnaissance and command and control projects, according to SPAWAR.

SPAWAR defines "economic impact" as "total goods and services purchased on the local economy," inclusive of civilian contractor employee patrol.

"The numbers show that the work we do is important to the war on terror, and we couldn't do it without our industry partners," said Marsha L. Harr woman for SPAWAR

YOUR COMMUNITY NEWS

group of students from the tri-county area listen to SPAWAR ior technician Joe Sturm talk about technological equipment t "Sgt. Larry" (left) may use during combat in the Middle East. , Brittany Umstead, an eighth-grader from Hanahan Middle ests out an infrared pocket scope developed at SPAWAR. tracks traces of heat and is used by law enforcement and . Students participating in the recent technology seminar operations and job opportunities available at the center.

igh-tech military agency invites students in

12 Charleston Regional Business Journal March 30 - April 5, 2006

SPAWAR to enhance outreach to local businesses

By Dan McCue
Staff Writer

The Space and Naval Warfare Systems Center in North Charleston is reaching out to technology businesses in the region interested in being considered for future subcontracting work with the agency.

The initiative, which is scheduled to formally begin May 1, stems from a partnership between SPAWAR, the Charleston Defense Contractors Association and the Armed Forces Communications and Electronics Association.

It will include a streamlining of business ability to communicate with SPAWAR online and quarterly sessions that will allow company officials to meet with agency technicians and representatives at locations in the community away from its secured facility.

"Small business is the backbone of our economy and a very important element in SPAWAR's business model," said Ann Howell, deputy of the agency's small business program.

"On one level, this will provide a greater opportunity for us to do some networking with small technology compa-

nies in the area, (and) at the same time, think our off-site programs will provide great opportunity to educate local companies about doing business with SPAWAR and, by extension, with the federal government as a whole," she said.

Howell and her staff are currently in the process of developing a "company-at-a-glance" online data sheet that will help small businesses communicate their qualifications for future contracting and subcontracting opportunities to the agency in a more efficient manner.

The quarterly sessions, held in various communities around Charleston, will also

- Small business is the backbone of our economy and a very important element to SPAWAR's business model.

Ann Howell
Deputy, SPAWAR small business program

Last year, according to figures released by SPAWAR on Wednesday, the facilities staff included 17 active military duty personnel, comprising a total payroll of $918,072, and 1,486 civilian employees, whose appropriated payroll amounted to more than $106 million.

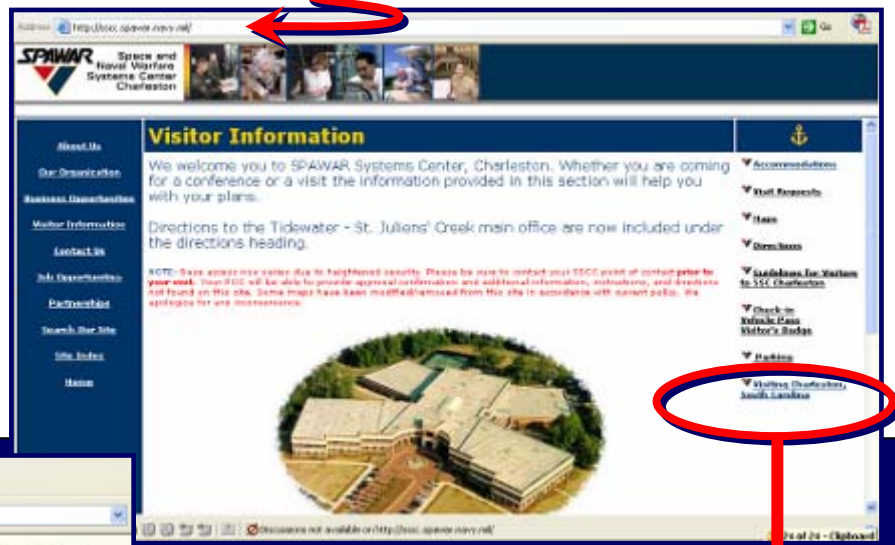
The average civilian employee salary at SPAWAR is now $71,520.

According to SPAWAR, its local civilian contractors employed 8,482 in 2005, with the total civilian contractor payroll being more than $831 million.

Charleston Area Economic Impact

Systems Center Charleston

Our website: http://sscc.spawar.navy.mil



- Civilian Personnel* $ 99,694,194
- Military Personnel $ 900,368
- Goods & Services $ 1,340,214,775

***Average Salary: $73,317**
051100

FY05 Economic Impact $1.4 B

Visiting Charleston, S.C.

SSC- Charleston hosts over 6,000 visitors each year

SPAWAR

Systems Center Charleston

Partnerships with the Community

SSCC supports programs and partnerships that help make our communities better, stronger, and a more vibrant places to live, work, and do business.

Special Olympics, Rotary,

Fire/Rescue, Youth Sports Programs,

Chamber of Commerce, Navy Family Services, Navy League

Combined Federal Campaign

Volunteer Service, AFCEA, Educators in Industry Program, Career & Science Fairs

Science and Technology Seminars, Business Education Partnership, Essay Contests, Big Brothers/Big Sisters, Toastmasters

SPAWAR
Systems Center Charleston

Questions?